

A REVISION OF THE GENUS MALURUS

By George Mack, National Museum.

The genus *Malurus* is confined to Australia, Tasmania, and some small adjacent islands. Probably in no other group is distribution so complete, at least one species being present in every part of the continent. The bright and beautifully plumaged males attract attention equally in the temperate south, the dry interior, and the tropical north.

This paper is based chiefly upon the excellent series in the H. L. White collection in the National Museum, augmented by the museum general collection. For substantial additional representatives of four species I am indebted to the Australian Museum, Sydney, and the South Australian Museum, Adelaide. To the Directors and officers responsible for the bird section of these two museums I owe my warmest thanks. The late Dr. William Macgillivray, of Broken Hill, kindly forwarded all his specimens of two northern species.

A typical male and female of each species are described, standard colour terms, from Ridgway's *Color Standards and Nomenclature*, being used ; all measurements are in millimetres. Maps are included on which is outlined the range of the various forms.

Genus MALURUS Vieillot.

Malurus Vieillot, Analyse nouv. Ornith., p. 44, 1816. Type, *Motacilla cyanea* Latham.

Leggeornis Mathews, Aust. Avian Rec., 1, p. 113, 1912. Type, *Malurus lamberti* Vigors and Horsfield.

Of the thirteen species included here, four differ from the genotype in lacking prominent, erectile ear-coverts, and in the widely different colour-pattern of their plumage ; three of these four species are similar in size and are the smallest of the genus, while the fourth is the largest. These differences are here recognised by accepting three subgenera (*Malurus*, *Hallornis*, and *Rosina*) containing nine, three and one species respectively. Structure of bill and feet, and the wing formula are similar in all species. Rictal bristles are five in number and vary in length roughly in proportion to the size of the bird. Some cabinet specimens have less than the proper number of bristles since these are easily lost in preparing skins. This fact appears to have misled Mathews, for in five of the six genera accepted

by him a different number is given. A feature of the genus that does not seem to have been previously noted is that the two outer tail feathers are minute, being little longer than the under tail-coverts.

Key to the Species.

Ear-coverts prominent, erectile	..	..	..	..	Subgenus MALURUS
Scapulars not chestnut					
Abdomen mostly white	..	..	..	..	<i>cyaneus</i>
Abdomen mostly blue					
Lower back black					
Head and mantle darker (bradley's blue)	..				<i>melanotus</i>
Head and mantle lighter (calamine blue)	..				<i>callainus</i>
Lower back blue	..	..	..	..	<i>splendens</i>
Scapulars chestnut					
Throat black					
Lower under surface mostly white, flanks tinged buff					
Ear-coverts paler than head	..	..	..	..	<i>lamberti</i>
Ear-coverts similar in colour to head	..	..	..	..	<i>amabilis</i>
Lower under surface mostly white, flanks tinged bluish lavender	..	..	..	..	<i>dulcis</i>
Throat blue-violet					
Head, ear-coverts and upper back similar in colour, lighter..					<i>elegans</i>
Head, ear-coverts and upper back differing in colour, darker	..	..	..	..	<i>pulcherrimus</i>
Ear-coverts not prominent, not erectile					
Size small	..	..	..	..	Subgenus HALLORNIS
Colour of plumage mostly blue					
Scapulars and inner secondaries white	..	..			<i>leuconotus</i>
Colour of plumage mostly black					
Scapulars and inner secondaries white	..	..			<i>leucopterus</i>
Scapulars and back red	..	..	..	..	<i>melanocephalus</i>
Size large	..	..	..	..	Subgenus ROSINA
Centre of crown black surrounded with purple	..				<i>coronatus</i>

Subgenus MALURUS Vieillot.

Malurus (Malurus) cyaneus (Latham).

This well-known species is the genotype, and is the only species found in south-east Australia. Four distinctive races have long been considered worthy of separation. Individual variation in colouration appears to account for more recently described subspecies.

Malurus (M.) cyaneus cyaneus (Latham).

Motacilla cyanea Latham, Gen. Syn. Birds, 2, p. 501, 1783; Adventure Bay, South Tasmania.

Motacilla superba Shaw, Naturalists' Miscellany, 1, p. 10, 1789; S. Tasmania.

Malurus longicaudus (not Temminck, 1820) Gould, Syn., pt. 4, App., p. 4, 1838; S. Tasmania.

Malurus gouldi Sharpe, Cat. Birds Brit. Mus., 4, p. 287, 1879; new name for above.

Malurus cyaneus fletcheræ Mathews, Aust. Avian Rec., 1, p. 93, 1912; Ringarooma, North Tasmania.

Range.—Tasmania.

Specimens examined.—28 from the following localities—Hobart, Railton, Bridport, Browns River, Scottsdale, Launceston, Devonport and Springfield.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
22 males ..	53-55.5 (54)	61-72 (65.4)	9-10 (9.9)	22-25 (23.2)
6 females ..	50-55 (53)	63-73 (67)	9-10 (9.8)	23-24 (23.3)

Male.—Forehead to nape, cheeks, ear-coverts and mantle salvia blue; lores, supraloral stripe, which joins a broad band on back and sides of neck, scapulars, lower back and upper tail-coverts black; wings fuscous, outer margins of quills pale olive-grey, all upper coverts washed and marked with blue which varies greatly in shade; tail urania blue, some feathers lighter on margin of outer web and tipped white; chin, throat and breast dusky blue-violet (2) followed by a narrow band of black; remainder of under surface white tinged buff and becoming drab on flanks and under tail coverts; some feathers adjoining the black band on breast tipped pale blue; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills whitish. "Bill black; eyes and feet brown."

Female.—Upper surface, including upper wing-coverts, mummy brown; wing-quills fuscous, lighter on outer margins, from mummy brown on innermost secondaries to greyish on primaries; tail olive-brown faintly suffused with blue; lores and feathers around eye chestnut; under surface white, tinged buff, and becoming drab on abdomen, flanks and under tail coverts. "Bill chestnut; eyes brown; feet light brown."

Individual variation in colour of head and mantle of the male is marked. No consistent difference between specimens from the north and south of the island is apparent.

Malurus (M.) cyaneus elizabethæ Campbell.

Malurus elizabethæ A. J. Campbell, Ibis, 1901, p. 10; King Island, Bass Strait.

Malurus cyaneus samueli Mathews, Aust. Avian Rec., 1, p. 93, 1912; Flinders Island, Bass Strait.

Range.—King Island and Flinders Island, Bass Strait.

Specimens examined.—18 from both islands.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
12 males ..	54-56 (54.8)	59-69 (67.4)	10	23-25 (23.8)
2 females ..	53-54	65-60	10	24

Subspecific characters.—Essentially similar in size to typical *cyaneus* but differs in having wings near to fuscous-black, secondaries broadly margined with deep blue, lighter and less pronounced on primaries, and upper coverts much suffused with blue and dusky-blue violet (2).

This form is easily recognised by the amount of blue in the wing. Variation in the colour of head and mantle is even greater than in typical *cyaneus*, some specimens, including the type, having these parts rich deep blue, near to bradley's blue. Examples from Flinders Island, while having slightly less blue in the wing, equal in all other respects those from the type locality.

Malurus (M.) cyaneus australis North.

Malurus australis North, Ibis, 1904, p. 672 ; Sydney, New South Wales.

Malurus cyaneus henriettae Mathews, Nov. Zool., 18, p. 357, 1912 ; Olinda, Victoria.

Malurus cyaneus leggei Mathews, *ib.*, p. 358, 1912 ; Port Adelaide, South Australia.

Malurus cyaneus ashbyi Mathews, *ib.*, p. 358, 1912 ; Kangaroo Island, South Australia.

Range.—From about Sydney, New South Wales, south and west to Eyre Peninsula, South Australia.

Specimens examined.—32 from the following localities—Eastwood (Sydney), New South Wales ; Rutherglen, Ararat, Alexandra, Olinda, Selby, Yarra Glen, Rosedale, Narnargoon, Mitcham, Black Rock, Melbourne, Queenscliff, Cape Otway Forest, Lorne, Victoria ; St. Kilda, South Australia ; Kangaroo Island.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
22 males ..	50–55 (52)	53–65 (59·6)	9–9·5	21–24 (22·1)
7 females ..	49–52 (50·5)	57–64 (60·2)	9	21–22 (21·5)

Subspecific characters.—Averages less in all dimensions than typical *cyaneus* and *elizabethae*, and the blue of head and mantle, although variable, is generally lighter than in these two insular forms. Differs from *cynochlamys* in its much deeper colouration.

Separation of mainland birds other than *australis* and *cynochlamys* appears to me unwarranted. Different shades of blue are apparent in specimens from the same locality.

Malurus (M.) cyaneus cynochlamys Sharpe.

Malurus cynochlamys Sharpe, Proc. Zool. Soc., 1881, p. 788 ; Moreton Bay, South Queensland.

Range.—Moreton Bay, S.E. Queensland, south to about Sydney, New South Wales on the coast, and towards the Murray River inland.

Specimens examined.—76 from the following localities—Brisbane, Dawson River, S. Queensland ; Warialda, Scone, Dungog, Maitland, Cobbora, Lithgow, Tarana, Rylstone, Tuggerah, Seaham, Upper Chichester River, Burrawa, Bathurst, New South Wales.

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Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
58 males ..	49-54 (50·6)	50-63 (56·1)	8-9 (8·6)	20-23 (21·1)
16 females ..	48-52 (49·9)	55-63 (59·6)	8-9 (8·3)	20-22 (20·8)

Subspecific characters.—Differs from all other forms in its much paler colouration. Averages slightly less in all dimensions than *australis*. Head, ear-coverts and mantle sky blue; upper wing-coverts and innermost secondaries more or less drab; lower under surface more distinctly white, the drab on the flanks being much restricted or lacking. Female lighter, being olive-brown rather than mummy brown on the upper surface.

The extensive series examined shows intergradation with *australis* on and near the coast about mid-New South Wales. Inland, however, *cynochlamys* appears to range much further south. All specimens from localities west of Sydney are almost exactly intermediate between *cynochlamys* and *australis*.



FIG. 1—DISTRIBUTION.

- 1 *Malurus (Malurus) cyaneus cyaneus*; 1a *M.(M.) c. elizabethae*;
 1b *M.(M.) c. australis*; 1c *M.(M.) c. cynochlamys*; 2 *Malurus*
(M.) melanotus; 3 *Malurus (M.) callainus callainus*; 3a *M.(M.) c.*
whitei; 4 *Malurus (M.) splendens splendens*; 4a *M.(M.) s. aridus*.

Malurus (Malurus) melanotus Gould.

Malurus melanotus Gould, Birds of Aust., 3, p. 20, 1841; Murray River Belts, South Australia.

Malurus melanotus victoriae Mathews, Nov. Zool., 18, p. 358, 1912; Carina, North-west Victoria.

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Range.—South-western Queensland, south through western New South Wales to the mallee country of N.W. Victoria, and adjoining part of South Australia.

Specimens examined.—28 from the following localities Mogil, 60 miles north of Bourke, near Bourke, Byrock, New South Wales ; Kow Plains, Raak, Pine Plains, Linga, Ned's Corner, Victoria ; Pungonda, Overland Corner, Bowhill, South Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
23 males ..	50-54 (51.5)	50-63 (58.2)	8-9 (8.2)	20-22 (21.3)
4 females ..	47-51 (49.2)	55-70 (60.5)	8-9 (8.2)	20

Male.—Forehead to nape, mantle and upper tail-coverts bradley's blue ; cheeks and ear-coverts ethyl blue ; lores, a band on back and sides of neck, which is joined by a narrower band from behind the eye and one from below the ear-coverts, black like lower back ; scapulars black tipped blue ; tail dusky blue, lighter towards base and some feathers tipped white ; wings fuscous, upper coverts suffused with calamine blue like outer margins of primaries and secondaries ; under surface bradley's blue, becoming lighter and mottled with white on lower part of abdomen and crossed on the breast by a narrow band of black which continues upwards, joining the nuchal band on sides of neck ; axillaries and under wing coverts pinkish buff, inner margins of wing-quills almost white. "Bill and feet black ; eyes brown."

Female.—Upper surface, including wings and upper wing-coverts, fuscous, outer margins of wing quills whitish ; tail dusky green-blue, some feathers tipped white ; lores and feathers around eye fawn colour ; under surface whitish, tinged buff and becoming drab on flanks and under tail-coverts ; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill light brown ; eyes hazel ; feet slate."

The field-notes and remarks given by Mathews under the heading of this species are confusing. For the most part they refer to *M. callainus* which, in my opinion, is specifically distinct from *melanotus*, and, so far as is known, the ranges of the two species do not overlap.

The series examined shows individual variation but no constant localized difference. The Mallee country of Victoria is similar and close to the typical locality, and specimens from these two districts are not separable.

Malurus (Malurus) callainus Gould.

As stated above, this species is sharply distinct from *melanotus* with which it has been confused.

Malurus (M.) callainus callainus Gould.

Malurus callainus Gould, Proc. Zool. Soc., 1867, p. 302 ; South Australia = Eyre Peninsula.

Malurus melanotus musgravi Mathews, Birds of Aust., 10, p. 69, 1922 ; Musgrave Range, Central Australia.

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Range. From Eyre Peninsula, west and north to the Macdonnell Ranges, Central Australia.

Specimens examined.—26 from the following localities—Wertigo, Donalds Plain, 18 miles N.W. of Kimba, Gawler Range, Kallioota, Kychering, 132 miles west of Tarcoola, Ooldea, Wantapella, South Australia; Finke River, Hermannsburg, James Range, Central Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
17 males ..	49-54 (52)	55-63 (59.8)	8-9 (8.8)	21-22 (21.4)
7 females ..	48-52 (50.1)	56-62 (58.4)	8-9 (8.8)	21-22 (21.2)

Male.—Forehead to nape, mantle and upper tail-coverts calamine blue; cheeks and ear-coverts pale turquoise green; lores, a band on back and sides of neck, joined by a narrower band from behind the eye and one from below the ear-coverts, black like lower back; scapulars black tipped methyl blue; wings fuscous, upper wing-coverts suffused, and primaries and secondaries margined on outer web, with calamine blue; tail dark delft blue, some feathers tipped white; clin, throat and upper breast phenyl blue followed by a narrow band of black which continues upwards and joins the black nuchal band on sides of neck; remainder of under surface light methyl blue mottled with white on lower abdomen; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill and feet black; eyes dark brown."

Female.—Upper surface including upper wing-coverts drab; wing quills slightly darker, outer margins varying from whitish on primaries to drab on innermost secondaries; tail dusky blue-green, some feathers tipped white; lores and feathers around eye vinaceous-fawn, shafts of feathers lighter; under surface whitish, tinged buff, and becoming light drab to drab on flanks and under tail-coverts; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill light brown; eyes and feet dark brown."

The deeper colour on the under surface ascribed to *musgravi* appears to be individual, but more material is desirable.

Malurus (M.) callainus whitei Campbell.

Malurus whitei Campbell, Emu, 1, pt. 2, p. 65, 1902; Interior.

Malurus melanotus germaini Mathews, Nov. Zool., 18, p. 359, 1912; Port Germein, South Australia.

Range.—So far as known, from Port Germein north to the vicinity of Port Augusta, South Australia.

Specimens examined.—6 from Port Germein and near Port Augusta.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
5 males ..	49-52 (50.4)	54-62 (57.4)	8-9 (8.2)	21

Subspecific characters.—Similar in size to typical *callainus* but differs in having much darker head, mantle and upper tail-coverts, the colour being light methyl blue, not calamine blue.

This is almost certainly the form described by Campbell ; although he gave no definite locality, his remarks suggest that his material came from near Port Augusta. Restricted in range and little known, nevertheless this race appears valid. The deep colour of the head, mantle and upper tail-coverts is constant in the adult males examined.

MALURUS (MALURUS) SPLENDENS (Quoy and Gaimard).

Climatically the south-west part of Western Australia inhabited by this species ranges from moist to arid. West of a line from Albany (the type locality of *splendens*) to the coast north of Perth, the annual rainfall averages 30 to 40 inches and vegetation is luxuriant. Eastwards, the annual rainfall decreases to 10 inches or less. These extremes in climatic conditions are reflected in the material examined. Specimens from the dry habitat are much paler than those from the coastal area, and as they appear to be representative examples, they are here referred to a new subspecies.

Malurus (M.) splendens splendens (Quoy and Gaimard).

Saxicola splendens Quoy and Gaimard, Voy. de l'Ast., 1, p. 197, 1830 ; Albany, South-west Australia.

Malurus pectoralis (not Stephens, 1826) Gould, Proc. Zool. Soc., 1833, p. 106 ; Swan River, Western Australia.

Malurus splendens perthi Mathews, Birds of Aust., 10, p. 73, 1922 ; new name for above.

Range.—From about Albany west to the coast and north, probably to Geraldton, S.W. Australia.

Specimens examined.—17 from the following localities—Bannister, Kalgan River, Augusta, Vasse River, Lake Matilda, Mandurah, Beverley, Guildford, and Perth, S.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
9 males ..	50-55 (52.8)	60-69 (63.9)	9	22-24 (22.8)
5 females ..	50-53 (51.6)	63-68 (65)	8-9 (8.8)	22-24 (23)

Male.—Entire upper surface, except nuchal band, smalt blue ; cheeks and ear-coverts sky blue ; lores, a narrow band from behind the eyes and one from below the ear-coverts black like the nuchal band into which they merge ; scapulars black, tipped blue-violet ; wings fuscous, primaries and secondaries margined on outer web with light cerulean blue, upper coverts suffused with same colour and tipped blue-violet ; tail dusky blue-violet (1), some feathers tipped white ; chin, throat and upper breast bluish violet followed by a narrow band of black across the breast which continues upwards and joins the black nuchal band on sides of neck ; remainder of under surface blue-violet, lighter and mottled with white on abdomen ; axillaries and under wing-coverts

pinkish buff, inner margins of wing-quills cartridge buff. "Bill black; eyes deep brown; feet very dark brown."

Female.—Upper surface, including upper wing coverts, hair brown; wing-quills fuscous, outer margins whitish; tail deep bluish grey-green, some feathers tipped white; lores and feathers around eye fawn colour; under surface whitish, tinged drab, and becoming drab-grey on flanks and under tail-coverts; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill light brown; eyes deep brown; feet very dark brown."

Regarding the name *perthi* Mathews stated . . . "for the form from Perth, described by Gould as *M. pectoralis*, which name is preoccupied as shown above, and which differs from the one named by Quoy and Gaimard from King George Sound." He gave no single character, and no difference is apparent in available specimens from the two localities.

Malurus (M.) splendens aridus, subsp. nov.

Subspecific characters.—Markedly lighter in colouration than typical *splendens*, particularly head, ear-coverts, and mantle. Forehead mazarine blue, deepening to salvia blue on nape and mantle; ear coverts pale cerulean blue.

Type.—No. 2361, H. L. White Collection, Nat. Mus. Victoria; ♂ ad., Lake Way, Western Australia, 18.7.1909 (F. L. Whitlock).

Range.—From the Stirling Ranges north probably to the Murchison River, and east, at least to Lake Way and Kalgoorlie, Western Australia.

Specimens examined.—9 from the following localities—Lake Way, Yalgoo, Stirling Ranges and Broome Hill, Western Australia.

Measurements.—

		Wing	Tail	Exposed Culmen	Tarsus
6 males	..	50-53 (52)	59-67 (62.3)	8-9 (8.8)	21.5-23 (22.5)
1 female	..	53	63	9	21

The difference in colour between this and typical *splendens* is marked, but much more material from the wide range given is desirable. A male from Yalgoo closely resembles the Lake Way specimen. Those from Broome Hill, and, to a less extent, Stirling Ranges, reflect the close proximity of these localities to the range of the typical form. The species has been recorded between Kalgoorlie and Eucla on the border of South Australia, but no specimens have yet been collected. No representative is contained in collections made at Zanthus and Naretha in that part of the State.

Malurus (M.) splendens riordani Mathews.

Malurus splendens riordani Mathews, Aust. Avian Rec., 1, p. 119, 1912; Yalgoo, Western Australia.

"Differs from *M. s. splendens* in its much deeper colour, and in having a very much slimmer bill." (Mathews)

No specimen exhibiting these characters has been seen by me. A single male from Yalgoo is markedly lighter than typical *splendens* and is here referred to *M. s. aridus*, new subspecies.

Malurus (Malurus) lamberti Vigors and Horsfield.

Ranging over the greater part of the continent and reaching the coast at least on the east and west, this is the most widely distributed wren of the genus. Four species with a similar type of plumage (*amabilis*, *dulcis*, *elegans*, and *pulcherrimus*) are confined to relatively small areas where the range of *lamberti* does not extend.

A very interesting and representative series of specimens has been examined, and four readily recognised subspecies are admitted.

Malurus (M.) lamberti lamberti Vigors and Horsfield.

Malurus lamberti Vigors and Horsfield, Trans. Linn. Soc., 15, p. 221, 1827; New South Wales.

Range.—South-eastern Queensland south to Sydney, New South Wales (coastal).

Specimens examined.—21 from the following localities—Macpherson Range, South Queensland; Tweed River, Richmond River, Lionsville, Stanwell Park, Wolgan Valley, Yarra Bay, Long Bay, Roseville, and near Sydney, New South Wales.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
14 males ..	48-51 (49.5)	68-80 (73)	9-10 (9.5)	21-22 (21.7)
5 females ..	48-49 (48.4)	67-78 (73.8)	9	21

Male.—Forehead and crown calamine blue, merging into methyl blue on nape; ear coverts and feathers around eye paler than crown; lores, a band on back and sides of neck, lower part of back and upper tail coverts black; upper back methyl blue like nape; scapulars chestnut; wing-quills fuscous, outer margins of primaries whitish, upper wing-coverts hair brown; tail dark olive-grey, some feathers tipped white; chin, throat and breast black, a few feathers on sides of breast tipped blue-violet; remainder of under surface white becoming buffy brown on flanks and under tail coverts; axillaries and under wing coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill black; eyes dark brown; feet brown."

Female.—Upper surface olive-brown; wing-quills fuscous, outer margins of primaries whitish, upper wing-coverts hair brown; tail dark olive grey, some feathers tipped white; lores and feathers around eye chestnut; chin and throat whitish merging into the olive brown of the upper surface on sides of neck; remainder of under surface cream-buff becoming buffy brown on

flanks and under tail-coverts ; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill reddish brown, eyes dark brown, feet brown."

The marked difference in colouration, particularly of the head and upper back, between typical *lamberti* of the coastal fringe and *assimilis* immediately west of the coastal range is considered by some workers sufficient to warrant specific rank for both. The contrast between individuals, however, is greatly minimised in a good series of specimens and by the fact that some examples of *lamberti* from the northern part of its range provide evidence of intergradation. For the greater part of the range of both, the coastal mountains seem to form an effective barrier between them ; but from south to central-east Queensland the higher country trends westward away from the coast, is more broken, and three distinct races appear to inhabit that area. Unfortunately, no specimens are available from the coastal country between Rockhampton and South Queensland, but those from inland near the former locality are typical *mastersi* as defined below, in the south-east is *lamberti*, and between these two, though well inland, is the type locality of *dawsonianus* (= *assimilis*). Available material is not sufficient for detailed study of the relationship of the three races in that part of Queensland.

Malurus (M.) *lamberti assimilis* North.

Malurus assimilis North, Vic. Naturalist, 18, p. 29, 1901 ; Mossgiel, New South Wales.

Malurus lamberti dawsonianus H. L. White, Emu, 16, p. 69, 1916 ; Dawson River, South Queensland.

Range.—North-west Victoria, north-east through inland New South Wales to the Dawson River district, South Queensland.

Specimens examined.—18 from the following localities—Nhill, Bendigo, Linga, Raak, Kow Plains, North-west Victoria ; Mossgiel (type of *assimilis*), Bourke, Byrock, Warialda, New South Wales ; Dawson River, Queensland (type of *dawsonianus*).

Measurements.—

		Wing	Tail	Exposed Culmen	Tarsus
12 males	..	48-52 (49.1)	65-75 (71.1)	8.5-10 (9)	20-22 (20.7)
5 females	..	47-49 (47.8)	54-77 (66.4)	8-9.5 (8.8)	20-21 (20.6)

Subspecific characters.—Differs from typical *lamberti* in the much deeper colouration of head, ear-coverts, upper back and tail, approaching nearest in this respect to *bernieri* ; forehead phenyl blue deepening to smalt blue on nape and upper back ; ear coverts and feathers around eye about light methyl blue tinged smalt blue ; tail dark bluish grey-green ; under surface from breast downwards is lighter, being white tinged deep olive-buff on flanks and under tail-coverts. The female is brownish olive rather than olive brown on upper surface.

This well marked form inhabits the better class of country between the eastern coastal watershed and the dry interior. Comparison of the type of *assimilis* with that of *dawsonianus* proves the latter name to be a synonym.

Malarus (M.) lamberti mastersi Mathews.

Malurus lamberti mastersi Mathews, Nov. Zool., 18, p. 360, 1912 ; Alexandra, Northern Territory.

Malurus lamberti occidentalis Mathews, *ib.*, 18, p. 360, 1912 ; Lake Way, Mid-west Australia.

Malurus lamberti mungi Mathews, *ib.*, 18, p. 360, 1912 ; Mungi, North-west Australia.

Malurus lamberti morgani S. A. White, Aust. Avian Rec., 1, p. 126, 1912 ; Lake Gairdner, South Australia.

Leggeornis lamberti hartogi Mathews, Bull. B.O.C., 39, p. 24, 1918 ; Dirk Hartog Island, Mid-west Australia.

Leggeornis lamberti eyrei Mellor, South Aust. Ornithologist, 6, p. 10, 1921 ; Eyre Peninsula, South Australia.

Range.—The interior of the continent from central-east Queensland and western New South Wales, west to coastal mid-west Australia and Dirk Hartog Island ; to Borroloola in the north and Eyre Peninsula in the south.

Specimens examined.—70 from the following localities—Moora Plains, Fitzroy River and Diamantina River, Queensland ; Borroloola, south of Borroloola, Northern Territory ; Barrow Creek, Palm Valley, Mission Plain, James Ranges, Central Australia ; Cowarie, Coopers Creek, Donalds Plain, Wertigo (Eyre Peninsula), near Ooldea, South Australia ; Upper Coongan River, Fortescue River, Hammersley Range, Point Cloates, Mauds Landing, Carnarvon, Peron Peninsula, Mid-west Australia ; Dirk Hartog Island.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
51 males ..	47-50 (49)	63-79 (69)	8.5-10 (9)	20-22 (20.8)
13 females ..	46-49 (47.5)	62-75 (69)	8.5-9.5 (8.8)	19.5-22 (20.3)

Subspecific characters.—Darker, but nearest to typical *lamberti* in colour of head and ear-coverts ; similar to *assimilis* in colour of upper back ; differs from both in upper aspect of wing being much lighter, in which respect it equals *bernieri*. Forehead and crown light methyl blue becoming smalt blue on nape, which is the colour of upper back ; ear-coverts and feathers around eye pale methyl blue ; outer margins of wing-quills light drab, upper wing-coverts light drab to drab, a few of the lesser series suffused with blue and some of the median tipped tawny ; the white lower under surface faintly tinged cream-buff. Upper surface of female hair brown.

That specimens from such a wide area are essentially similar is not surprising since climatic conditions are very similar throughout. Apparently based on slight individual variations, the other races described from within this range are not, in my opinion, separable. It is significant that Mathews (Syst. Avium Aust., pt. 2, p. 624) has placed *mungi* as a synonym of *occi-*

dentalis although the former was described as very much darker than the latter. It is even possible that *mungi* is based on a specimen of *M. dulcis*, for the type locality (Mungi) is in very different country to that inhabited by *mastersi* and there is no other record of *lamberti* in that part of north-west Australia.

Malurus (M.) lamberti bernieri Grant.

Malurus bernieri Grant, Bull. Brit. Orn. Club, 23, p. 72, 1909; Bernier Island, Western Australia.

Range.—Bernier Island, Western Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
2 males ..	45-48	70-62	9-9.5	20-21
2 females ..	46-46	57-69	9	21

Subspecific characters.—Differs markedly from all other forms in the much deeper colour of head, ear-coverts, upper back and tail; similar to *mastersi* only in the lighter upper aspect of wing and in almost entirely lacking buff colour on flanks. Forehead smalt blue deepening to blue-violet on nape, which is also the colour of the upper back; ear-coverts and feathers around eye ultramarine blue; tail dark delft blue. Upper surface of female mouse grey.

This is an easily recognised race, markedly different from *mastersi* on the adjoining mainland. It appears to be confined to a single island on the coast of Western Australia.



FIG. 2—DISTRIBUTION.

- 5 *Malurus (Malurus) lamberti lamberti*; 5a *M.(M.) l. assimilis*; 5b *M.(M.) l. mastersi*; 5c *M.(M.) l. bernieri*; 6 *Malurus (M.) amabilis amabilis*; 6a *M.(M.) a. clarus*; 7 *Malurus (M.) dulcis*; 8 *Malurus (M.) elegans*; 9 *Malurus (M.) pulcherrimus*.

Malurus (Malurus) amabilis Gould.

There is no apparent reason for including *M. dulcis* as a race of *amabilis*. Of the chestnut-shouldered group, only *amabilis* is found in Cape York Peninsula, where it appears to be restricted to the east coast, except in the extreme north. The nearest locality from which *dulcis* has been recorded is King River, Northern Territory, about 800 miles to the west ; the intervening country, south of the Gulf of Carpentaria, forms part of the range of *M. lamberti mastersi*. Two males and one female in the H. L. White Collection, collected at Borrooloola and identified by Mathews as *dulcis*, were recorded as such and the eggs were described under that name by H. L. White (*Emu*, 14, p. 157, 1915). The skins, however, are plainly referable to *mastersi*.

Malurus (M.) amabilis amabilis Gould.

Malurus amabilis Gould, Proc. Zool. Soc., 1850, p. 277 ; Cape York, North Queensland.

Malurus hypoleucus Gould, Annals Mag. Nat. Hist., 19, p. 369, 1867 ; Cape York, North Queensland.

Range.—From Cape York south to about Cooktown, east coast of Cape York Peninsula, North Queensland.

Specimens examined.—19 from the following localities—Cape York, Somerset, Lockerbie, Piara, Watson River, and Claudie River, N. Queensland.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
14 males ..	50-53 (51.9)	49-62 (57.8)	10-10.5 (10.1)	21-22 (21.2)
5 females ..	49-52 (50.4)	51-63 (56.4)	9-10.5 (10)	20.5-21 (20.8)

Male.—Forehead to nape, ear-coverts and feathers around eye amparo blue, inclining to salvia blue on forehead ; lores, a band on back and sides of neck and lower back black ; upper back pale violet-blue ; scapulars chestnut ; wing quills except innermost secondaries fuscous-black, outer margins much lighter, those of primaries almost white, the whole suffused with varying shades of blue ; lesser and median wing coverts mostly black margined bluish-gray, the outermost mottled with blue-violet ; greater coverts and innermost secondaries fuscous, margins tawny ; tail and upper tail-coverts violet-blue (1), central feathers narrowly, remainder broadly tipped white which continues down outer web of outermost feathers ; chin, throat and breast black, a few feathers on sides of breast tipped blue-violet ; abdomen white, faintly tinged buff on flanks and under tail-coverts ; axillaries, under wing-coverts and inner margins of wing-quills white, faintly tinged buff. "Bill black ; eyes brown ; feet brownish."

Female.—Upper surface dark tyrian blue, a greenish tinge on forehead and crown ; ear coverts light cerulean blue ; lores and feathers around eye white ; scapulars hair-brown tinged blue ; wing-quills fuscous, upper wing-coverts hair-brown, those near margin of wing tinged blue and blue-violet ;

tail dark delft blue, central feathers narrowly, remainder broadly tipped white which continues down outer web of outermost feathers; under surface white, tinged cartridge buff particularly on flanks; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills white. "Bill black; eyes brown; feet light brown."

The female differs markedly from that of other species of the genus in having the bill black and the upper surface dark blue. Notable in the male is the even colour of head and ear-coverts, and the very dark upper aspect of the wing.

Malurus (M.) amabilis clarus, subsp. nov.

Subspecific characters.—Differing from typical *amabilis* in the much lighter colour of head, ear-coverts and upper back. Forehead to nape, ear-coverts and feathers around eye pale cerulean blue; upper back mazarine blue.

Type.—No. 2584, H. L. White Collection, Nat. Mus., Victoria; ♂ ad., Cardwell, North-east Queensland, 10/8/1916 (H. G. Barnard).

Range.—From Cardwell north to about Cooktown, North-east Queensland.

Specimens examined.—15 from Cardwell, Rockingham Bay and Cairns, N.E. Queensland.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
11 males ..	50·5–53 (52)	58–62 (59·2)	10–11 (10·4)	20–22 (21)
4 females ..	49–52 (50·2)	54–60 (58)	10	20–21 (20·2)

Particularly noticeable in this race is the lack of the violet tinge on head and back so evident in typical *amabilis*.

Malurus (M.) amabilis barroni Mathews.

Malurus amabilis barroni Mathews, Nov. Zool., 18, p. 361, 1912; Cairns, North Queensland.

"Differs from *M. a. amabilis* in having the chestnut scapulars much darker" (Mathews).

No such difference is apparent in seven available specimens from the type locality; all specimens from Cairns are here referred to *M.a. clarus*, new subspecies.

Malurus (Malurus) dulcis Mathews.

Malurus dulcis Mathews, Bull. Brit. Orn. Club, 21, p. 100, 1908; S. Alligator River, Northern Territory.

Malurus amabilis rogersi Mathews, Nov. Zool., 18, p. 361, 1912; Napier Broome Bay, North-west Australia.

Range.—So far as known, the western part of Arnhem Land, Northern Territory and Napier Broome Bay district, North-west Australia.

REVISION OF THE GENUS MALURUS.

Specimens examined.—11 from the following localities—King River, Mary River, Northern Territory; Napier Broome Bay, N.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
6 males ..	49.5–51 (50.1)	53–70 (64.5)	10	19.5–22 (20.3)
4 females ..	45–50 (47.7)	61–67 (64)	10	20

Male.—Forehead light methyl blue gradually deepening on top of head to bradley's blue on nape; ear-coverts and feathers around eye pale cerulean blue; lores, a band on back and sides of neck, and lower back, black; upper back phenyl blue; scapulars chestnut; wing quills fuscous, outer margins and upper wing-coverts lighter and suffused with blue, some coverts near edge of wing mottled blue-violet; tail dark delft blue, greenish towards base and most feathers tipped white; upper tail-coverts black with lighter bases; chin, throat and breast black, a few feathers on sides of breast tipped smalt blue; remainder of under surface white, tinged bluish lavender on flanks and under tail-coverts; axillaries and under wing-coverts white, faintly tinged buff, inner margins of wing-quills cartridge buff. "Bill black; eyes dark brown; feet brown."

Female.—Upper surface dark green-blue gray, a greenish tinge on forehead and ear-coverts; lores and feathers around eye white; wings fuscous, margins of quills whitish and those of upper wing-coverts the same colour as the back; tail dark delft blue, greenish towards base and most feathers tipped white; entire under surface white, tinged cartridge buff, and indistinctly grayish on flanks; axillaries and under wing-coverts pinkish buff, inner margins of wing-quills cartridge buff. "Bill pale reddish-brown; eyes brown; feet very pale brown."

It is remarkable that this very distinct form should ever have been considered conspecific with *amabilis*. The fact that the female is not brown appears to me to be the only feature common to both. King River, Northern Territory, is the most easterly point where this species has been taken. Two males and one female from Napier Broome Bay are identical with Northern Territory specimens except that the female has the lores chestnut, not white. Mathews has figured a similar specimen as the female of *M. amabilis rogersi*, but only additional material can explain this small but important difference.

Malurus (Malurus) elegans Gould.

Malurus elegans Gould, Birds of Aust. & Adj. Islands, pt. 1, p. 2, 1837;
=Swan River, Western Australia.

Leggeornis elegans warreni Mathews, Aust. Avian Rec., 3, p. 61, 1916;
Warren River, South-west Australia.

Range.—Coastal S.W. Australia from King George Sound to a little north of Perth.

Specimens examined.—17 from the following localities—King George Sound, Albany, Wilsons Inlet, Warren River, near Lake Williams and Gingin, S.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
15 males ..	51–53 (52·4)	72–83 (78·4)	10	22–24 (22·9)
2 females ..	50	76–80	9	23–22

Male.—Forehead to nape, ear-coverts, feathers around eye and upper back beryl blue, appearing darker on the crown where the blackish brown bases of the feathers are evident, and lighter on the upper back, the bases of the feathers being white; lores, a band on back and sides of neck, and lower back, black, scapulars chestnut; wings fuscous, outer margins of quills and margins of upper wing-coverts much lighter, some of the latter tinged blue-violet; tail and upper tail-coverts dark grayish blue-green, coverts with black bases and some tail feathers tipped white; chin, throat and breast dusky blue-violet (2), a few feathers across lower breast black; remainder of under surface white becoming drab on flanks and under tail-coverts; axillaries and under wing-coverts warm buff, inner margins of wing quills almost white. "Bill black; eyes very dark brown; feet brownish-black."

Female.—General colour of upper surface mummy brown, bases of the feathers deep neutral gray which gives top and sides of head to nape a grayish appearance; wings fuscous, outer margins of quills lighter, margins of the innermost secondaries and upper wing-coverts mummy brown like back; tail dark grayish blue-green, lores burnt sienna; under surface white, tinged buff and becoming drab on flanks and under tail-coverts; axillaries and under wing-coverts warm buff, inner margins of wing-quills almost white. "Bill blackish brown; eyes dark brown; feet olivaceous brown."

This species, in the specimens examined, exhibits no racial characters at any part of its rather restricted range. The single subspecies named has since been placed in synonymy by its author (*Syst. Avium Aust.*, pt. 2, p. 624). Notable features of the female, in contrast with other species of similar plumage pattern, are the dark, almost black, bill, the brighter colour of the lores, and the fact that the same colour does not encircle the eye.

Malurus (Malurus) pulcherrimus Gould.

Malurus pulcherrimus Gould, *Proc. Zool. Soc.*, 1844, p. 106; Wongan Hills, Western Australia.

Malurus pulcherrimus stirlingi Mathews, *Aust. Avian Rec.*, 1, p. 192, 1913; Stirling Ranges, South-west Australia.

Range.—Inland S.W. Australia from Kalgan River and Stirling Ranges north to Wongan Hills.

Specimens examined.—17 from the following localities—Kalgan River, Stirling Ranges, Gnowangerup, Gracefield, Kojonup, Gordon River and Wongan Hills, S.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
11 males ..	50–53 (51·1)	67–81 (75·5)	9–10 (9·5)	21–23·5 (23·3)
5 females ..	49–51 (50)	68–76 (72·6)	9–9·5 (9·2)	21–23 (22)

Male.—Forehead amparo blue deepening to phenyl blue on nape; ear-coverts and feathers around eye mazarine blue tinged amparo blue; lores, a

band on back and sides of neck and lower back black ; upper back smalt blue ; scapulars chestnut ; wing quills fuscous, whitish on outer margins, upper wing-coverts hair brown, margins of innermost tawny ; tail and upper tail-coverts deep grayish blue-green, some tail feathers tipped white and some coverts black ; chin, throat and breast dusky blue-violet (2), a few feathers across lower breast tipped black ; remainder of under surface white, tinged buff on flanks and under tail-coverts ; axillaries and under wing-coverts warm buff, inner margins of quills whitish. "Bill black ; eyes dark brown ; feet very dark brown."

Female.—Upper surface olive-brown, a grayish tinge on forehead and sides of face and neck ; wing quills fuscous, whitish on outer margins ; upper wing-coverts hair-brown ; tail and upper tail-coverts deep grayish blue-green, some coverts tinged olive-brown ; lores and feathers around eye chestnut ; chin, throat and breast pale smoke gray merging into buffy brown on flanks and under tail-coverts ; centre of abdomen white, faintly tinged buff ; axillaries and under wing-coverts warm buff, inner margins of wing-quills whitish. Bill chestnut-brown. "Eyes and feet dark brown."

In common with *M. elegans*, the throat and breast of this species is blue-violet as distinct from the black of these parts in the remainder of the chestnut-shouldered group. A mere strip of country on the line of 20 inch rainfall, between Wongan Hills and the Stirling Ranges, appears to be the extent of its range. The author of the only subspecies named has since consigned it to synonymy (Syst. Avium Aust., pt. 2, p. 625).

The inclusion here by recent authors of *Leggeornis lamberti eyrei* Mellor appears to me unwarranted. Described from two specimens taken more than 1000 miles east of the known range of *pulcherrimus*, *eyrei* appears to have been properly included by Mellor under *lamberti*. The only difference that he noted was that the two specimens exhibited a bluish tinge on the throat in some lights. This slight variation is quite compatible with *lamberti*, but it does not approach the blue-violet on the throat and breast of *pulcherrimus* which is more pronounced than in any other similarly marked species.

Subgenus HALLORNIS Mathews.

Hallornis Mathews, Aust. Avian Rec., 1, p. 113, 1912. Type, *Malurus cyanotus* Gould.

Ryania Mathews, *ib.*, 1, p. 113, 1912. Type, *Muscicapa melanocephala* Latham.

Nesomalurus Mathews, *ib.*, 2, p. 59, 1913. Type, *Malurus edouardi* Campbell.

Malurus (*Hallornis*) *leuconotus* Gould.

Malurus leuconotus Gould, Proc. Zool. Soc., 1865, p. 198 ; South Australia (interior).

Malurus leucopterus (not Dumont, 1824) Vigors and Horsfield, Trans. Linn. Soc., 15, p. 222, 1827; New South Wales (interior).

Malurus cyanotus Gould, Handbook of the Birds of Aust., 1, p. 331, 1865; New South Wales (interior).

Malurus cyanotus exsul Mathews, Nov. Zool., 18, p. 359, 1912; Yule River, Mid-west Australia.

Malurus leuconotus perplexus Mathews, *ib.*, p. 359, 1912; Day Dawn, Mid-west Australia.

Malurus cyanotus diamantina H. L. White, Emu, 18, p. 121, 1918; Diamantina River, Western Queensland.

Hallornis leuconotus wongani Mathews, Birds of Aust., 10, p. 83, 1922; Wongan Hills, Western Australia.

Range.—From south-west Queensland, the interior of New South Wales and north-west Victoria west to the coast of mid-west Australia.

Specimens examined.—67 from the following localities—Diamantina River, W. Queensland; Buckingham, Riverina, New South Wales; Swan Hill, Raak, Kow Plains, N.W. Victoria; Hermannsburg, James Range, Finke River, Central Australia; Coopers Creek, Mungeranie, Mt. Lyndhurst, Ooldea, Haig, South Australia; Naretha, Lake Way, Nullagine, Upper Coongan River, Cossack, Fortescue River, N.W. Cape, Point Cloates, Mauds Landing, Peron Peninsula and Carnarvon, Western Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
50 males ..	44–50 (46·8)	55–68 (61)	8·9–5 (8·7)	18–20 (19)
10 females ..	44–46 (45)	57–65 (60)	8–9 (8·6)	18–19 (18·5)

Male.—Entirely phenyl blue except scapulars, wings and tail; scapulars, innermost secondaries and inner upper wing-coverts white; remainder of wing fuscous, upper-coverts tipped or margined phenyl blue, outer margins of wing-quills bluish gray; tail dusky greenish-blue, margins of outer webs of feathers lighter and of inner webs fuscous; axillaries and under-wing-coverts black excepting those of the latter at edge of wing which are blue, inner margins of wing quills noticeably lighter. "Bill black; eyes deep brown; feet dark brown."

Female.—Upper surface, including upper wing-coverts wood-brown; wing quills hair-brown, outer margins of secondaries wood brown and those of primaries much lighter; tail drab, indistinctly suffused with blue and lighter on margins of outer webs; lores and under surface white tinged cartridge buff, particularly on flanks and under tail-coverts; axillaries, under wing-coverts and inner margins of quills pinkish buff. "Bill pink horn; eyes umber; feet light brown."

The validity of *leuconotus* as distinct from *leucopterus* Vigors and Horsfield = *cyanotus* Gould (not *leucopterus* Dumont) has long been doubted. The type has been lost and no other specimen was recorded until 1924 when Kinghorn and Iredale (Emu, 24, p. 59) published an account of one taken at Mount Lyndhurst, South Australia, agreeing with the original description. This specimen (which I have had the opportunity to examine) exhibits a tinge of blue, especially towards the tips,

in some of the white feathers of the upper back, and there are one or two white, or partially white, feathers evident in the blue of the crown and nape. In the series examined there are two specimens, collected on the same date, at Buckingham, New South Wales; one is typical *cyanotus*, while the other approaches *leuconotus* in having the long feathers of the upper back white, or grayish white, broadly tipped blue, and the uppermost feathers of the lower back distinctly white tipped blue. In four other examples from further inland a limited amount of white is apparent on the upper surface apart from the scapulars and innermost secondaries. In view of the foregoing, it appears to me evident that there is only one species; specimens having the back entirely or partially white are merely evidence of pronounced variation within the species. A further extreme example is the single male for which H. L. White proposed the name *diamantina*. It is one of a number of specimens from various localities which exhibit a "bleached" appearance to a varying degree. The other forms named are based apparently on individual variation. *M. leuconotus perplexus* was described when Mathews accepted two distinct species, and it must have been based on a specimen having the back blue (*M. cyanotus*), not white (*M. leuconotus*). Unfortunately, the name *leuconotus* has priority over the much more suitable *cyanotus*.



FIG. 3—DISTRIBUTION.

- 10 *Malurus (Hallornis) leuconotus*; 11 *Malurus (H.) leucopterus*;
 12 *Malurus (H.) melanocephalus melanocephalus*; 12a *M.(H.) m. pyrrhonotus*; 12b *M.(H.) m. cruentatus*.

Malurus (Hallornis) leucopterus Dumont.

Malurus leucopterus Dumont, Dict. Sci. Nat., 30, p. 118, 1824; Dirk Hartog Island, Western Australia.

Malurus edouardi Campbell, Vic. Naturalist, 17, p. 203, 1901; Barrow Island, Western Australia.

Range.—Dirk Hartog Island and Barrow Island, Western Australia.

Specimens examined.—43 from both islands.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
29 males ..	43-46 (44.8)	56-64 (59)	8-9 (8.7)	18-20 (19)
9 females ..	42-45 (43.9)	55-60 (58.7)	8-9 (8.6)	18-19 (18.7)

Male.—Entirely glossy black with greenish-blue reflections, except scapulars, wings and tail; scapulars, innermost secondaries and inner upper wing-coverts white; remainder of upper wing-coverts fuscous-black tipped or margined glossy black; primaries and remainder of secondaries fuscous with outer margins bluish white, darkest on inner secondaries; tail hortense blue; under wing-coverts black, inner margins of wing-quills noticeably lighter. "Bill black; eyes deep brown; feet blackish brown."

Female.—Upper surface drab; ear-coverts and sides of neck light drab; wings fuscous, outer margins of wing-quills lighter, from drab on innermost secondaries to pale drab-gray on primaries; lesser and median upper wing-coverts tipped pale drab-gray like outer margins of greater series and wing-quills; tail grayish-blue green, suffused with drab and some outer feathers tipped white; lores and under surface white becoming avallaneous on flanks and under tail-coverts; under wing-coverts pinkish buff, inner margins of quills light drab. "Bill dull red, fleshy white at base; eyes dark hazel; feet brownish purple."

Although the two islands inhabited by this species are about 500 miles apart, specimens from both, in the representative series examined, are inseparable. It has been stated that the males differ in the colour of tail and thighs (tibia), but this is plainly due to state of plumage. In an otherwise fully plumaged male the thighs may be drab or grayish as in the female, the tail brownish or greenish-blue, and the under wing-coverts pinkish buff, not black. Available specimens show various stages from drab immature up to fully plumaged adult males which have the tail hortense or dusky blue, and the thighs and under wing-coverts black. The tail, in examples from both islands, varies considerably and it is difficult to state a single colour that is approached by all. Some females from Barrow Island have the upper surface deeper or richer in colour than those from the type locality, but this is not a constant feature.

In the series examined five males from Dirk Hartog Island and one from Barrow Island show a limited amount of blue, similar to the blue of *M. leuconotus* of the mainland, in the otherwise black feathers of the under surface; this colour is

in the form of a subterminal bar to the feathers about the middle of the lower breast.

Malurus (Hallornis) melanocephalus Latham.

The range of this species is entirely coastal, extending from north-eastern New South Wales around the north of the continent to Derby in the north-west. This is the only wren found on the coast of Queensland between Cardwell and Rockhampton, which localities form the southern and northern limits respectively of the range of many species. There are three recognisable races varying markedly in colour of the back and slightly in size.

Malurus (H.) melanocephalus melanocephalus (Latham).

Muscicapa melanocephala Latham, Index Orn. Sup., p. 52, 1801; New South Wales.

Sylvia dorsalis Lewin, Birds, New Holl., pl. XIV, 1808; Patterson New South Wales.

Malurus browni Vigors and Horsfield, Trans. Linn. Soc., 15, p. 223, 1827; Thirsty Sound, South Queensland.

Range.—North-eastern New South Wales, north probably to about the Burdekin River, E. Queensland (coastal).

Specimens examined.—21 from the following localities—Bellenger River, Grafton, Richmond River, Tweed River, N.E. New South Wales; Moreton Bay, Moora Plains and Mackay, E. Queensland.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
15 males ..	43-49 (45.2)	45-58 (50.6)	9	18-20 (19)
6 females ..	41-47 (43.1)	52-66 (56.3)	8-9 (8.8)	17-20 (18.8)

Male.—Entirely velvety black with deep blue reflections, except wings, scapulars and back; scapulars and back from neck to upper tail-coverts grenadine red; wing-quills fuscous, innermost secondaries slightly darker; upper wing-coverts black excepting inner webs of greater series which are fuscous; axillaries and under wing-coverts black, inner margins of wing quill noticeably lighter. "Bill black; eyes dark brown; feet light brown."

Female.—Upper surface, including upper wing-coverts, drab, tinged tawny olive on lower back and upper tail-coverts; ear-coverts and sides of neck light drab; wing-quills hair-brown, outer margins much lighter, particularly those of the primaries; tail sepia, feathers lighter on margins of outer webs; lores and under surface white tinged buff, becoming pinkish buff on flanks and under tail-coverts like the under wing-coverts and inner margins of wing quills. "Bill dark horn; eyes umber; feet light brown."

Easily distinguished from the two northern races by the distinct orange (grenadine red) colour of the back and the lighter upper aspect of the wing.

Malurus (H.) melanocephalus pyrrhonotus Mathews.

Malurus melanocephalus pyrrhonotus Mathews, Nov. Zool., 18, p. 362, 1912; Cairns, North Queensland.

Range.—From south of Cardwell to north of Cairns, N.E. Queensland.

Specimens examined.—15 from Cairns and Cardwell.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
13 males ..	43-45 (44)	43-51 (46.4)	9	18-20 (18.9)
1 female ..	42	54	9	19

Subspecific characters.—Intermediate between typical *melanocephalus* and *cruentatus* in colour of back which is scarlet to scarlet-red, and averaging slightly less than the former and more than the latter in length of wing and tail. Similar to *cruentatus* in having innermost secondaries almost black.

The range indicated, owing apparently to climatic conditions, is rich in distinct forms of many species. Specimens from Cairns are slightly deeper in colour on the back than those from Cardwell, but are still widely different in that respect from *cruentatus*, to which examples from Claudie River and Coen are plainly referable.

Malurus (H.) melanocephalus cruentatus Gould.

Malurus cruentatus Gould, Proc. Zool. Soc., 1839, p. 143; =Port Essington, Northern Territory.

Malurus cruentatus boweri Ramsay, Proc. Linn. Soc., N.S.Wales, 1, p. 1100, 1886; Derby, North-west Australia.

Malurus melanocephalus melvillensis Mathews, Aust. Avian Rec., 1, p. 45, 1912; Melville Island, Northern Territory.

Range.—Northern coast of Australia from north of Cairns, N.E. Queensland to Derby, N.W. Australia; Groote Eylandt and Melville Island.

Specimens examined.—41 from the following localities—Claudie River, Coen, N. Queensland; Borroloola, Brunette Downs, Groote Eylandt, King River, Flora River, Darwin, E. Alligator River, Northern Territory; Napier Broome Bay, Leopold Downs, Fitzroy River and Derby, N.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
27 males ..	41-45 (42.8)	39-47 (42.6)	9	18-19 (18.7)
7 females ..	41-45 (42.8)	45-63 (54.1)	9	18-19 (18.7)

Subspecific characters.—Differs from both other forms in the much deeper colour of back which is opal red, and in averaging less in length of wing and tail. Similar to *pyrrhonotus* in having innermost secondaries almost black.

Specimens from Derby are slightly deeper in colour on the back, but the difference is too slight to be considered of subspecific value. The original description of *M. c. boweri* is that

of a male about mid-way through the process of changing plumage. The author of *M. m. melvillensis* has recently consigned that name to synonymy. (Syst. Avium Aust., pt. 2, p. 625.)

Subgenus ROSINA Mathews.

Rosina Mathews, Aust. Avian Rec., 1, p. 113, 1912. Type, *Malurus coronatus* Gould.

Malurus (Rosina) coronatus Gould.

A distinctive species, but one of the least known of the genus. Its range appears to be a narrow inland belt of country extending eastward across northern Australia from the Fitzroy to the Leichardt River. Though invariably accepted as much the largest of the genus, it is equalled in all but length of culmen by *M. elegans*.

Malurus (R.) coronatus coronatus Gould.

Malurus coronatus Gould, Proc. Zool. Soc., 1857, p. 221; Victoria River, Northern Territory.

Rosina coronata rogersiana Mathews, Birds of Aust., 10, p. 129, 1922; Derby, North-west Australia.

Range.—From the Victoria River district, Northern Territory, south-west to the Fitzroy River, N.W. Australia (inland).

Specimens examined.—8 from the following localities—100 miles east of Wyndham (near type locality), Fitzroy River and Derby (? inland), N.W. Australia.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
4 males ..	54.5–57 (55.2)	75–84 (80.2)	11	23–24.5 (24)
4 females ..	52.5–55 (53.7)	78–83 (80.2)	11	23

Male.—Forehead to nape, except centre of crown, hortense violet; lores, centre of crown, above and below eye, ear-coverts and a band on back and sides of neck black; remainder of upper surface including most upper wing-coverts buffy brown tinged tawny olive; wing quills and upper coverts near edge of wing hair-brown, margins of former buffy brown and of latter bluish white; tail and upper tail-coverts bluish gray-green, tail feathers tipped white, the lateral ones white on margins of outer web; centre of under surface white faintly tinged buff merging into pinkish buff on sides of body and under tail-coverts; under wing-coverts pinkish buff, whitish near edge of wing, inner margins of wing-quills cartridge buff. "Bill black; eyes dark brown; feet horn colour."

Female.—Upper surface including most upper wing-coverts buffy brown tinged tawny olive, except forehead which is tinged blue, giving a grayish appearance; wing-quills and upper coverts near edge of wing hair-brown, margins of the former buffy brown and of the latter bluish white; tail and

upper tail-coverts bluish gray-green, tail feathers tipped white, the lateral ones white on margins of outer web; lores, feathers around eye and a supraloral stripe, which terminates behind the eye, white; feathers of lores immediately in front of eye tipped black; ear-coverts bay; centre of under surface white, faintly tinged buff, becoming pinkish buff on sides of body and under tail-coverts; under wing-coverts pinkish buff, whitish near edge of wing, inner margins of wing-quills cartridge buff. "Bill nearly black; eyes brown; feet pale horn."

Although two of the specimens examined are labelled as from Derby, and a subspecies has been described with that place as the type locality, this form nowhere approaches the coast. No recent collector has recorded it from the coastal area. A single fully plumaged male from Derby (?) has the head much lighter (more pinkish) than typical specimens, and in that respect is the opposite of the subspecies described. Fitzroy River specimens taken 140 miles inland are, however, typical *coronatus*.



FIG. 4.—DISTRIBUTION

13 *Malurus (Rosina) coronatus coronatus*;
13a *M. (R.) c. caeruleus*

Malurus (R.) coronatus caeruleus subsp. nov.

Subspecific characters.—Differs from typical *coronatus* in much darker colour of back; from the black band on hind neck to upper tail-coverts is more drab distinctly tinged blue, particularly on mantle the feathers of which are tipped grayish blue. Female markedly different in colour of head which is dark delft blue on forehead, becoming lighter on crown and merging into the buffy brown of the upper surface on hind neck; white feathers of lores immediately in front of eye are broadly tipped black, forming a distinct spot.

Type.—No. 2608, H. L. White Collection, Nat. Mus. Victoria; ♂ ad., Borroloola, McArthur River, Northern Territory, 3/2/1914 (H. G. Barnard).

Range.—From Borroloola east to Leichardt River, N.W. Queensland and west towards Victoria River, Northern Territory.

Specimens examined.—20 from the following localities—Borroloola, Pinda, Northern Territory; Caloola, Leichardt River, N.W. Queensland.

Measurements.—

	Wing	Tail	Exposed Culmen	Tarsus
11 males ..	53–57 (54)	69–81 (72.9)	10.5–11.5 (11.1)	22–24 (23.4)
5 females ..	52–53 (52.2)	70–84 (74.8)	11	22–24 (23.2)

It is impossible to say how far westward this very distinct race extends until more collecting has been done between Borroloola and the Victoria River.

Malurus (R.) coronatus macgillivrayi Mathews.

Malurus coronatus macgillivrayi Mathews, Aust. Avian Rec., 2, p. 9, 1913; Leichardt River, North-west Queensland.

"Differs from *M. c. coronatus* in having a bluish-mauve crown to its head, not pinkish-mauve, and the black collar on the nape only indicated." (Mathews.)

It is not possible to refer any specimen here. The bluish tinge on the head and the lack of a complete black band on the hind neck suggest a specimen in the process of assuming full plumage.